

**TRIETHYLENE GLYCOL**

Version: 1.02

Revision Date 2018/01/16

**SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING****1.1 Product identifier**

Trade name	TRIETHYLENE GLYCOL
REACH No.	01-2119438366-35-0002
Substance name (REACH / CLP)	2,2'-(ethylenedioxy)diethanol

**1.2 Relevant identified uses of the substance or mixture and uses advised against**

Use	Industrial use Solvent lubricant or lubricant additive printing ink additive raw material for printing inks and printing ink additives raw material for gas scrubbers raw material for plasticizers raw material for plastics additives raw material for anti-freezing agents hydraulic fluids and additives heat transfer medium absorption or adsorption agent refrigeration oil plasticizer
Uses advised against	

**1.3 Details of the supplier of the safety data sheet**

Company	SASOL Germany GmbH Anckelmannsplatz 1 20537 Hamburg  Telephone: +49 40 63684-1000 Telefax: +49 40 63684-3700
Information (Product safety):	Telephone: + 49 (0) 23 65 - 49 47 05 Telefax: + 49 (0) 23 65 - 49 92 40
E-mail address	msds-info.germany@de.sasol.com

**1.4 Emergency telephone number**

Emergency telephone number	+ 49 (0) 23 65 - 49 22 32
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**SECTION 2: HAZARDS IDENTIFICATION****2.1 Classification of the substance or mixture****Classification (REGULATION (EC) No 1272/2008)**

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

**2.2 Label elements**

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Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

**2.3 Other hazards**

No hazards to be specially mentioned.

**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

This product is a substance in the meaning of regulation (EC) 1907/2006.

**CHEMICAL CHARACTERIZATION****2,2'-(Ethylenedioxy)diethanol****component type:** Active ingredient**EC-No.:** 203-953-2**Index-No.:****CAS-No.:** 112-27-6**REACH No.:** 01-2119438366-35-0002**Substance name (REACH / CLP):** 2,2'-(ethylenedioxy)diethanol**COMPONENTS TO BE NAMED IN ACCORDANCE WITH REGULATION (EC) 1907/2006 AS WELL AS OTHER HAZARDOUS INGREDIENTS AND CONTAINED SUBSTANCES WITH WORK PLACE LIMIT VALUES**

No dangerous ingredients according to Regulation (EC) No. 1907/2006

**SECTION 4: FIRST AID MEASURES****4.1 Description of first aid measures**

<b>General advice</b>	No hazards which require special first aid measures.
<b>If inhaled</b>	Remove from exposure, lie down. If breathing is irregular or stopped, administer artificial respiration. Monitor breathing, give oxygen if necessary. Consult a physician.
<b>In case of skin contact</b>	Wash off with soap and water.
<b>In case of eye contact</b>	Rinse with plenty of water.
<b>If swallowed</b>	Consult a physician if necessary. Rinse mouth.

**4.2 Most important symptoms and effects, both acute and delayed**

<b>Most important symptoms and effects, both acute and delayed</b>	Symptoms: No information available.
	Risks: No information available.

**4.3 Indication of any immediate medical attention and special treatment needed**

<b>Indication of any immediate medical attention and special treatment needed</b>	Treatment: No information available.
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**SECTION 5: FIREFIGHTING MEASURES****5.1 Extinguishing media**

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<b>Suitable extinguishing media</b>	Water, Foam, Dry powder, Carbon dioxide (CO <sub>2</sub> )
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**5.2 Special hazards arising from the substance or mixture**

<b>Specific hazards during firefighting</b>	Dangerous gases or fumes may occur in case of fire.
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**5.3 Advice for firefighters**

<b>Special protective equipment for firefighters</b>	Wear self-contained breathing apparatus for firefighting if necessary.
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<b>Further information</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
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**SECTION 6: ACCIDENTAL RELEASE MEASURES**

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**6.1 Personal precautions, protective equipment and emergency procedures**

<b>Personal precautions</b>	Handle in accordance with good industrial hygiene and safety practice.
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<b>Special precautions</b>	Forms slippery/greasy layers with water.
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**6.2 Environmental precautions**

<b>Environmental precautions</b>	Avoid subsoil penetration. Do not flush into surface water or sanitary sewer system.
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**6.3 Methods and materials for containment and cleaning up**

<b>Methods for cleaning up</b>	Use mechanical handling equipment. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
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**6.4 Reference to other sections**

For personal protection see section 8.

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**SECTION 7: HANDLING AND STORAGE**

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**7.1 Precautions for safe handling**

<b>Advice on safe handling</b>	No special technical protective measures required.
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<b>Advice on protection against fire and explosion</b>	Normal measures for preventive fire protection.
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**7.2 Conditions for safe storage, including any incompatibilities**

<b>Requirements for storage areas and containers</b>	No special storage conditions required.
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<b>Storage class (TRGS 510)</b>	10: Combustible liquids not in Storage Class 3
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<b>Other data</b>	Protect from frost, heat and sunlight.
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**7.3 Specific end use(s)**

<b>Specific use(s)</b>	This information is not available.
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## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

#### COMPONENTS WITH WORKPLACE CONTROL PARAMETERS

##### National occupational exposure limits

No data available

##### EUROPEAN OCCUPATIONAL EXPOSURE LIMITS

No data available

#### DERIVED NO EFFECT LEVEL (DNEL)

Substance name: 2,2'-(ethylenedioxy)diethanol			
End Use	Exposure routes	Value	Note
Workers	dermal, Acute/short-term exposure - systemic effects		Not relevant / not applicable
	Inhalation, Acute/short-term exposure - systemic effects		Not relevant / not applicable
	dermal, Acute/short-term exposure - local effects		Not relevant / not applicable
	Inhalation, Acute/short-term exposure - local effects	50 mg/m3	
	dermal, long-term exposure - systemic effects	40 mg/kg	based on body weight and day
	Inhalation, long-term exposure - systemic effects		Not relevant / not applicable
	dermal, long-term exposure - local effects		Not relevant / not applicable
	Inhalation, long-term exposure - local effects		Not relevant / not applicable
Consumers	dermal, Acute/short-term exposure - systemic effects		Not relevant / not applicable
	Inhalation, Acute/short-term exposure - systemic effects		Not relevant / not applicable
	Oral, Acute/short-term exposure - systemic effects		Not relevant / not applicable
	dermal, Acute/short-term exposure - local effects		Not relevant / not applicable
	Inhalation, Acute/short-term exposure - local effects	25 mg/m3	
	dermal, long-term exposure - systemic effects	20 mg/kg	based on body weight and day
	Inhalation, long-term exposure - systemic effects		Not relevant / not applicable
	Oral, long-term exposure - systemic effects		Not relevant / not applicable
	dermal, long-term exposure - local effects		Not relevant / not applicable
	Inhalation, long-term exposure - local effects		Not relevant / not applicable

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**PREDICTED NO EFFECT CONCENTRATION (PNEC)**

Substance name: 2,2'-(ethylenedioxy)diethanol		
Environmental Compartment	Value	Note
Fresh water	10 mg/l	
Marine water	1 mg/l	
intermittent release	10 mg/l	
treatment plant	10 mg/l	
Fresh water sediment	46 mg/kg	based on dry weight
Marine sediment	4.6 mg/kg	based on dry weight
Soil	3.32 mg/kg	based on dry weight
food		Not relevant / not applicable

**8.2 Exposure controls****PERSONAL PROTECTIVE EQUIPMENT****Respiratory protection**

No personal respiratory protective equipment normally required. In inadequately ventilated areas, where workplace limits are exceeded, where unpleasant odours exist or where aerosols are in use, or smoke and mist occur, use self-contained breathing apparatus or breathing apparatus with a type A filter or appropriate combined filter (e.g. where aerosols are in use, or smoke and mist occur, A-P2 or ABEK-P2), in compliance with EN 141.

**Hand protection**

The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Be aware that in daily use the durability of a chemical resistant protective glove can be notably shorter than the break through time measured according to EN 374, due to the numerous outside influences (e.g. temperature).

**gloves suitable for permanent contact:**

Material: Nitrile rubber/nitrile latex  
Break through time:  $\geq$  480 min  
Layer thickness: 0.35 mm

Material: butyl-rubber  
Break through time:  $\geq$  480 min  
Layer thickness: 0.5 mm

**gloves suitable for splash protection:**

Material: Natural rubber/natural latex  
Break through time:  $\geq$  240 min  
Layer thickness: 0.5 mm

**Eye protection**

Safety glasses

**Skin and body protection**

Wear suitable protective equipment.

**Hygiene measures**

General industrial hygiene practice.

**Protective measures**

No special protective equipment required.

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**ENVIRONMENTAL EXPOSURE CONTROLS****General advice**

Avoid subsoil penetration.  
Do not flush into surface water or sanitary sewer system.

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES****9.1 Information on basic physical and chemical properties**

<b>Physical state</b>	liquid; 20 °C; 1,013 hPa
<b>Form</b>	liquid
<b>Colour</b>	colourless
<b>Odour</b>	odourless
<b>Odour Threshold</b>	No data available
<b>pH</b>	6.5 - 7.5; 100 g/l; 20 °C
<b>Melting point/range</b>	-7 °C
<b>Boiling point/boiling range</b>	286.5 °C; 1,013 hPa
<b>Flash point</b>	176 °C
<b>Evaporation rate</b>	No data available
<b>Flammability (solid, gas)</b>	not applicable (liquid)
<b>Lower explosion limit</b>	0.9 %(V)
<b>Upper explosion limit</b>	9.2 %(V)
<b>Vapour pressure</b>	0.000655 hPa; 24.7 °C
<b>Relative vapour density</b>	No data available
<b>Density</b>	1.125 g/cm <sup>3</sup> ; 20 °C
<b>Relative density</b>	No data available
<b>Water solubility</b>	completely soluble
<b>Partition coefficient: n-octanol/water</b>	log Pow: -1.75
<b>Ignition temperature</b>	347 °C
<b>Auto-ignition temperature</b>	not auto-flammable
<b>Viscosity, dynamic</b>	47.8 mPas; 20 °C
<b>Explosive properties</b>	not expected based on structure and functional groups
<b>Oxidizing properties</b>	not expected based on structure and functional groups

**9.2 Other data**

None known.

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**SECTION 10: STABILITY AND REACTIVITY**

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**10.1 Reactivity**

**Note** Stable at normal ambient temperature and pressure.  
No decomposition if stored and applied as directed.

**10.2 Chemical stability**

**Note** No decomposition if stored and applied as directed.

**10.3 Possibility of hazardous reactions**

**Hazardous reactions** None known.

**10.4 Conditions to avoid**

**Conditions to avoid** Direct heating, dirt, chemical contamination, sunlight, UV or ionising radiation.

**10.5 Incompatible materials to avoid**

**Materials to avoid** None known.;

**10.6 Hazardous decomposition products**

**Hazardous decomposition products** No decomposition if stored normally.

**Thermal decomposition** No decomposition if used as directed.

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**SECTION 11: TOXICOLOGICAL INFORMATION**

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**11.1 Information on toxicological effects****Acute toxicity**

**Acute oral toxicity** 2,2'-(Ethylenedioxy)diethanol:  
LD50 Rat: > 2,000 mg/kg  
(literature value)  
Based on available data, the classification criteria are not met.

**Acute inhalation toxicity** 2,2'-(Ethylenedioxy)diethanol:  
LC50 Rat: > 5.2 mg/l; 4 h  
(literature value)  
Based on available data, the classification criteria are not met.

**Acute dermal toxicity** 2,2'-(Ethylenedioxy)diethanol:  
LD50 Rabbit: > 5,000 mg/kg;  
(literature value)  
Based on available data, the classification criteria are not met.

**Skin corrosion/irritation**

**Skin irritation** 2,2'-(Ethylenedioxy)diethanol:  
Rabbit: not irritating; Draize Test  
(literature value)  
Based on available data, the classification criteria are not met.

**Serious eye damage/eye irritation**

**Eye irritation** 2,2'-(Ethylenedioxy)diethanol:  
Rabbit: not irritating; Draize Test  
(literature value)

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Based on available data, the classification criteria are not met.

**Respiratory or skin sensitisation****Sensitisation**

2,2'-(Ethylenedioxy)diethanol:  
Did not cause sensitisation on laboratory animals.  
Patch test on human volunteers did not demonstrate sensitisation properties.  
Based on available data, the classification criteria are not met.

**Germ cell mutagenicity****Genotoxicity in vitro**

2,2'-(Ethylenedioxy)diethanol:  
In vitro tests did not show mutagenic effects  
(literature value)

**Genotoxicity in vivo**

2,2'-(Ethylenedioxy)diethanol:  
The study is not necessary.  
Justification:  
In vitro tests did not show mutagenic effects  
Category approach

**Remarks**

2,2'-(Ethylenedioxy)diethanol:  
Based on available data, the classification criteria are not met.

**Carcinogenicity****Carcinogenicity**

2,2'-(Ethylenedioxy)diethanol:  
The substance has been shown to be not genotoxic, therefore it is not expected to have a carcinogenic potential.  
Category approach  
(literature value)

**Remarks**

2,2'-(Ethylenedioxy)diethanol:  
Based on available data, the classification criteria are not met.

**Reproductive toxicity****Reproductive toxicity**

2,2'-(Ethylenedioxy)diethanol:  
Animal testing did not show any effects on fertility.  
(literature value)

**RemarksReproductive toxicity**

2,2'-(Ethylenedioxy)diethanol:  
Based on available data, the classification criteria are not met.

**Teratogenicity**

2,2'-(Ethylenedioxy)diethanol:  
Animal testing did not show any effects on foetal development.  
(literature value)

**Remarks-Teratogenicity**

2,2'-(Ethylenedioxy)diethanol:  
Based on available data, the classification criteria are not met.

**STOT - single exposure****Remarks**

2,2'-(Ethylenedioxy)diethanol:  
The substance or mixture is not classified as specific target organ toxicant, single exposure.

**STOT - repeated exposure****Remarks**

2,2'-(Ethylenedioxy)diethanol:  
The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

**Repeated dose toxicity**

2,2'-(Ethylenedioxy)diethanol:  
Rat; Oral; Subchronic toxicity  
NOAEL: 20000 ppm (based on body weight and day); OECD Test Guideline 408  
(literature value)

**Aspiration hazard**



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**Aspiration toxicity** 2,2'-(Ethylenedioxy)diethanol:  
Not applicable

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1 Toxicity

<b>Toxicity to fish</b>	2,2'-(Ethylenedioxy)diethanol: LC50 (96 h) <i>Lepomis macrochirus</i> (Bluegill sunfish): > 100 mg/l ; static test (literature value)
<b>Toxicity to fish - Chronic toxicity</b>	2,2'-(Ethylenedioxy)diethanol: NOEC (7 d) <i>Pimephales promelas</i> (fathead minnow): > 100 mg/l; semi-static test The data are derived from the evaluations or test results achieved with similar products (conclusion by analogy). (literature value)
<b>Toxicity to daphnia and other aquatic invertebrates</b>	2,2'-(Ethylenedioxy)diethanol: EC50 (48 h) <i>Daphnia magna</i> (Water flea): > 100 mg/l ; static test; DIN 38412 (literature value)
<b>Toxicity to daphnia and other aquatic invertebrates - Chronic toxicity</b>	2,2'-(Ethylenedioxy)diethanol: NOEC <i>Daphnia magna</i> (Water flea): > 100 mg/l; reproduction rate; (literature value)
<b>Toxicity to aquatic plants</b>	2,2'-(Ethylenedioxy)diethanol: EC5 (8 d) <i>Scenedesmus quadricauda</i> (Green algae): > 100 mg/l ; static test; literature value
<b>Toxicity to bacteria</b>	2,2'-(Ethylenedioxy)diethanol: EC10 (30 min) activated sludge, industrial: > 1,995 mg/l; Respiration inhibition (literature value)
<b>Toxicity to soil dwelling organisms</b>	2,2'-(Ethylenedioxy)diethanol: EC50 (28 d) <i>Folsomia candida</i> , Arthropod (Collembola): 13,701 mg/kg; reproduction rate (literature value)  2,2'-(Ethylenedioxy)diethanol: EC50 (63 d) <i>Eisenia andrei</i> : 11,018 mg/kg; reproduction rate; artificial soil (literature value)
<b>Toxicity to terrestrial flora</b>	2,2'-(Ethylenedioxy)diethanol: Growth inhibition; EC50: 3,982 mg/kg; <i>Elymus lanceolatus</i> (literature value)
<b>Toxicity for other terrestrial non-mammalian fauna</b>	2,2'-(Ethylenedioxy)diethanol: No data available

### 12.2 Persistence and degradability

<b>Biodegradability</b>	2,2'-(Ethylenedioxy)diethanol: > 70 %; 10 d; aerobic; OECD Test Guideline 301A Category approach (literature value)
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### 12.3 Bioaccumulative potential

<b>Bioaccumulation</b>	2,2'-(Ethylenedioxy)diethanol: Bioaccumulation is unlikely.
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### 12.4 Mobility in soil

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**Mobility** 2,2'-(Ethylenedioxy)diethanol:  
Adsorption/Soil; Medium: Soil; Koc: 10; log Koc: 1; calculated  
Highly mobile in soils  
(literature value)

**12.5 Results of PBT and vPvB assessment**

**Results of PBT assessment** 2,2'-(Ethylenedioxy)diethanol:  
Based on available data, the classification criteria are not met.

**12.6 Other adverse effects**

**General advice** 2,2'-(Ethylenedioxy)diethanol:  
None known.

**SECTION 13: DISPOSAL CONSIDERATIONS****13.1 Waste treatment methods**

**Product** Can be incinerated, when in compliance with local regulations.

**Contaminated packaging** Empty remaining contents.

**waste code of the European Union: EWC** A waste code in accordance with the European Waste Catalogue (EWC) may not be assigned to this product since it admits of a classification only when the consumer uses it for some purpose. The waste code must be determined in agreement with the regional waste disposal authority or company.

**SECTION 14: TRANSPORT INFORMATION****14.1 UN number**

**ADR** Not dangerous goods  
**RID** Not dangerous goods  
**ADN** Not dangerous goods  
**IMDG** Not dangerous goods  
**ICAO/IATA** Not dangerous goods

**14.2 Proper shipping name**

**ADR** Not dangerous goods  
**RID** Not dangerous goods  
**ADN** Not dangerous goods  
**IMDG** Not dangerous goods  
**ICAO/IATA** Not dangerous goods

**14.3 Transport hazard class**

**ADR** Not dangerous goods  
**RID** Not dangerous goods  
**ADN** Not dangerous goods  
**IMDG** Not dangerous goods  
**ICAO/IATA** Not dangerous goods

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**14.4 Packing group**

ADR	Not dangerous goods
RID	Not dangerous goods
ADN	Not dangerous goods
IMDG	Not dangerous goods
ICAO/IATA	Not dangerous goods

**14.5 Environmental hazards**

ADR	Environmentally hazardous	no
RID	Environmentally hazardous	no
ADN	Environmentally hazardous	no
IMDG	Marine pollutant	no
ICAO/IATA	Environmentally hazardous	no

**14.6 Special precautions for user**

Not classified as dangerous in the meaning of transport regulations.

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Pollution category	Z
Remarks	MARPOL NAME: Triethylene glycol

**SECTION 15: REGULATORY INFORMATION****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****NATIONAL/OTHER REGULATIONS**

<b>Legislation on the control of major-accident hazards involving dangerous substances</b>	Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. list entry in the directive:: Not applicable
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**NOTIFICATION STATUS**

Switzerland. Consolidated Inventory	CH INV	listed (product or constituents are listed)
US. Toxic Substances Control Act	TSCA	listed (product or constituents are listed)
Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL)	DSL	listed (product or constituents are listed)
Australia. Industrial Chemical (Notification and Assessment) Act	AICS	listed (product or constituents are listed)
Japan. Kashin-Hou Law List	ENCS (JP)	listed (product or constituents are listed)
Japan. Industrial Safety & Health Law (ISHL) List	ISHL (JP)	listed (product or constituents are listed)
Korea. Existing Chemicals Inventory (KECI)	KECI (KR)	listed (product or constituents are listed)
Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act	PICCS (PH)	listed (product or constituents are listed)
China. Inventory of Existing Chemical Substances	INV (CN)	listed (product or constituents are listed)

Please note: the names and CAS numbers which are used for this product in the stated inventories may deviate from the information which is listed in chapter 3.

**15.2 Chemical safety assessment****2,2'-(ethylenedioxy)diethanol**

A Chemical Safety Assessment has been carried out for this substance.

**SECTION 16: OTHER INFORMATION****Safety datasheet sections which have been updated:**

- 8. Exposure controls/personal protection
- 15. Regulatory information

**Further information:**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. This safety datasheet only contains information relating to safety and does not replace any product information or product specification.

**Key or legend to abbreviations and acronyms used in the safety data sheet**

ADN

Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure

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ADR	Accord européen relatif au transport international des marchandises Dangereuses par Route
AICS	Australian Inventory of Chemical Substances
ANSI	American National Standards Institute
ASTM	American Society of Testing and Materials (US)
BCF	Bioconcentration factor
CLP	Regulation on Classification, Labelling and Packaging of Substances and Mixtures
DIN	Deutsches Institut für Normung
DNEL	Derived No-Effect Level
DSL	Domestic Substances List
EC...	Effect concentration ... %
ENCS	Existing Notified Chemical Substances (Japan)
EWG	European Waste Catalogue
IATA	International Air Transport Association
IBC	Intermediate Bulk Container
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
ISHL	Industrial Safety and Health Law (Japan)
ISO	International Organization for Standardization
IUPAC	International Union of Pure and Applied Chemistry
KECI	Korea Existing Chemicals Inventory
LC...	Lethal Concentration, ...%
LD...	Lethal Dose, ...%
MARPOL	International Convention for the Prevention of Pollution From Ships
NDSL	Non-Domestic Substances List
NOAEL	no observable adverse effect level
NOEL/NOEC	No Observed-effect level/concentration
NZIoC	New Zealand Inventory of Chemicals
OECD	Organisation for Economic Co-operation and Development
PBT	persistent, bioaccumulative, toxic
PICCS	Philippine Inventory of Chemicals and Chemical Substances
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport international ferroviaire de marchandises dangereuses
TG	Test Guideline
TRGS	Technische Regeln für Gefahrstoffe
TSCA	Toxic Substances Control Act
vPvB	very persistent, very bioaccumulative
WGK	Wassergefährdungsklasse

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**Annex**

Attachments to the safety data sheet and/or lists of the identified uses for the listed substances can be downloaded using the internet links below.

**2,2'-(ethylenedioxy)diethanol**

[http://www.sasolgermany.de/fileadmin/doc/productsafety/Annex/000000000153\\_EN\\_01.pdf](http://www.sasolgermany.de/fileadmin/doc/productsafety/Annex/000000000153_EN_01.pdf)

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